C L A I M S

What is claimed and desired to be secured by Letters Patent is as follows:

1. A tool set for implanting a spinal rod in a patient; said tool set comprising:

   a) a pair of end guide tools;

   b) each of said end guide tool being adapted to attach at a lower end thereof to a respective spinal implant bone screw;

   c) each of said end guide tools including a longitudinal guide channel extending upwardly from said lower end thereof; each of said channels being sized and shaped to be adapted to receive opposite ends of the rod for operably guiding the rod ends toward respective bone screws;

   d) each of said end guide tools have a helically wound first guide and advancement structure located near a bottom thereof;

   e) said first guide and advancement structure providing a helical pathway adapted to rotatably and matingly receive a mating structure of a bone screw closure top; and

f) said first guide and advancement structure also being adapted to be aligned with a second guide and advancement structure on a respective bone screw so as to continue said helical pathway when a respective guide tool is attached to a respective bone screw and so as to be adapted to transfer the closure top between a respective guide tool and a respective bone screw upon rotation of the closure top.

2. An intermediate guide tool for use with a spinal implant bone screw; said tool including:

a) lower attachment structure adapted for attachment to a respective bone screw;

b) a longitudinal pass through slot extending from a bottom thereof upward and being adapted to receive therethrough and guide the rod to a bone screw attached to said intermediate guide tool;

c) a helically wound first guide and advancement structure located near a bottom of said intermediate guide tool;

d) said first guide and advancement structure providing a helical pathway adapted to rotatably and matingly receive a mating structure of a bone screw closure top; and

e) said first guide and advancement structure also being adapted to be aligned with a second guide and advancement structure on a bone screw so as to continue said helical pathway when said guide tool is attached to a bone screw and so as to be adapted to transfer the closure top between said guide tool and the bone screw upon rotation of the closure top.

3. A vertebral support rod implantation kit adapted for use with a plurality of vertebra including:

a) a plurality of polyaxial bone screws with each bone screw being adapted for implantation in one vertebra; each of said bone screws having a mating attachment structure;

b) an elongate rod sized and shaped to extend between a pair of end bone screws of said plurality of bone screws;

c) a pair of end guide tools;

d) each of said end guide tools including an end guide tool attachment structure at a lower end thereof that operably and removably connects with said bone screw mating attachment structure of a respective bone screw;

e) each of said end guide tools including a longitudinal guide channel extending upwardly from near said lower end thereof; each of said channels being sized and shaped to slidingly receive opposite ends of the rod for operably guiding the rod ends toward respective bone screws

f) each of said end guide tools have a first helically wound guide and advancement structure located near a bottom thereof;

g) said first guide and advancement structure providing a helical pathway adapted to rotatably and matingly receive a mating guide and advancement structure of a bone screw closure top; and

h) said first guide and advancement structure also being operably alignable with a second guide and advancement structure located on a respective bone screw so as to continue said helical pathway when a respective guide tool is attached to a respective bone screw and so as to be adapted to transfer the closure top between a respective guide tool and the bone screw upon rotation of the closure top.

4. A vertebral support rod implantation kit adapted for use with a plurality of vertebra including:

a) a plurality of polyaxial bone screws with each bone screw being adapted for implantation in one vertebra; each of said bone screws having a mating attachment structure;

b) an elongate rod sized and shaped to extend between a pair of end bone screws of said plurality of bone screws;

c) a pair of end guide tools;

d) each of said end guide tools including an end guide tool attachment structure at a lower end thereof that operably and removably connects with said bone screw mating attachment structure of a respective bone screw;

e) each of said end guide tools including a longitudinal guide channel extending upwardly from near said lower end thereof; each of said channels being sized and shaped to slidingly receive opposite ends of the rod for operably guiding the rod ends toward respective bone screws;

f) at least one intermediate guide tool having an intermediate guide tool attachment structure that operably and removably connects with said mating attachment structure of a respective bone screw;

g) each of said intermediate tools including a longitudinal pass through slot extending from the bottom thereof upward and operably receiving therethrough and guiding intermediate locations along the rod to a respective bone screw attached to the intermediate guide tool;

h) each of said end and intermediate guide tools have a first helically wound guide and advancement structure located near a bottom thereof;

i) said first guide and advancement structure providing a helical pathway adapted to rotatably and matingly receive a mating guide and advancement structure of a bone screw closure top; and

j) said first guide and advancement structure also being operably alignable with a second guide and advancement structure located on a respective bone screw so as to continue said helical pathway when a respective guide tool is attached to a respective bone screw and so as to be adapted to transfer the closure top between a respective guide tool and the bone screw upon rotation of the closure top.

5. The kit according to Claim 3 including:

a) the closure top having the mating guide and advancement structure thereon.

6. In a guide tool for seating a rod in a spinal implant bone screw and in combination with the bone screw; the improvement comprising:

a) said guide tool being operably connectable to said bone screw and having a lower first guide and advancement structure;

b) said bone screw having upwardly extending arms forming a rod receiving channel therein and having a second guide and advancement structure;

c) said first and second guide and advancement structures being positioned and aligned when said guide tool is connected to said bone screw so as to form a continuous helically wound path.

7. The combination of Claim 7 including:

a) a closure top for closing said rod receiving channel between said arms and having thereon a helically wound mating guide and advancement structure that is operably received along said helically wound path upon rotation.

8. The combination according to Claim 8 wherein:

a) said closure top mating guide and advancement structure and said bone screw second guide and advancement structure include interlocking members so as to be interlocking upon being mated.

9. The combination according to Claim 9 wherein:

a) said first guide and advancement structure has a square thread.